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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/689,390	BEAUMONT, MARK	
	Examiner	Art Unit	
	Jacob Petranek	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,22-29 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,22-29 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/22/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-15, 22-29, and 36 are pending.

2. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 10/22/2009 has been entered.

3. The office acknowledges the following papers:

Claims, IDS, and arguments filed on 10/22/2009.

Withdrawn objections and rejections

4. The drawing objections have been withdrawn due to amendment.

New Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-15, 22-29, and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 36 recite "each shifting operation being performed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively." Applicant states that support for the claimed limitation comes from at least paragraphs 62 and 63. Paragraph 62 states "For example, if a wrap shift is performed a number of times equal to the number of PEs in a row, each PE in the row will see every value held by all of the other PEs in the row." For the claimed limitation to have proper written description support based on paragraph 62's statement, every shifting operation for the three shears operation would include a wrap shift that is performed a number of times equal to the number of PEs in a row. However, the specification failed to support this limitation that all shifts are done in such a way. An example of this can be seen in figures 15a-d and paragraphs 74-76 of the PG-PUG that shows only a single column/row shift operation of the plurality of row/column shifts that are performed in a way that each PE of the row/column receives all data of the respective row/column, while the other rows/columns don't receive all respective data. Thus, the amendment doesn't have proper written description support within the specification at the time of filing.

Claims 8 and 22 recite "until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively." Applicant states that support for the claimed limitation comes from at

least paragraphs 62 and 63. Paragraph 62 states "For example, if a wrap shift is performed a number of times equal to the number of PEs in a row, each PE in the row will see every value held by all of the other PEs in the row." For the claimed limitation to have proper written description support based on paragraph 62's statement, every shifting operation for the three shears operation would include a wrap shift that is performed a number of times equal to the number of PEs in a row. However, the specification failed to support this limitation that all shifts are done in such a way. An example of this can be seen in figures 15a-d and paragraphs 74-76 of the PG-PUG that shows only a single column/row shift operation of the plurality of row/column shifts that are performed in a way that each PE of the row/column receives all data of the respective row/column, while the other rows/columns don't receive all respective data. Thus, the amendment doesn't have proper written description support within the specification at the time of filing.

7. Claims 2-7, 9-15, and 23-29 are rejected due to their dependency.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-15, 22-29, and 36 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 36 recite "each shifting operation being performed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively." Applicant states that

support for the claimed limitation comes from at least paragraphs 62 and 63. Paragraph 62 states "For example, if a wrap shift is performed a number of times equal to the number of PEs in a row, each PE in the row will see every value held by all of the other PEs in the row." For the claimed limitation to have proper written description support based on paragraph 62's statement, every shifting operation for the three shears operation would include a wrap shift that is performed a number of times equal to the number of PEs in a row. However, the specification failed to support this limitation that all shifts are done in such a way. An example of this can be seen in figures 15a-d and paragraphs 74-76 of the PG-PUG that shows only a single column/row shift operation of the plurality of row/column shifts that are performed in a way that each PE of the row/column receives all data of the respective row/column, while the other rows/columns don't receive all respective data. For examination purposes, the limitation will be interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column.

Claims 8 and 22 recite "until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively." Applicant states that support for the claimed limitation comes from at least paragraphs 62 and 63. Paragraph 62 states "For example, if a wrap shift is performed a number of times equal to the number of PEs in a row, each PE in the row will see every value held by all of the other PEs in the row." For the claimed limitation to have proper written description support based on paragraph 62's statement, every shifting operation for the three shears operation would include a wrap shift that is

performed a number of times equal to the number of PEs in a row. However, the specification failed to support this limitation that all shifts are done in such a way. An example of this can be seen in figures 15a-d and paragraphs 74-76 of the PG-PUG that shows only a single column/row shift operation of the plurality of row/column shifts that are performed in a way that each PE of the row/column receives all data of the respective row/column, while the other rows/columns don't receive all respective data. For examination purposes, the limitation will be interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column.

Claim 22 recites "a third shifting of said plurality of data in said first pair of directions." Figures 15a-d shows a plurality of shifting operations, but the third shifting operation is performed in an opposite direction of the first direction. This is similar to how the shifting directions are claimed in claim 8. For examination purposes, the third shifting direction is interpreted as being opposite of the first shifting direction.

Claim 29 recites "said third shifting and selecting operations are coordinated to enable a third shear operation to be performed in said first pair of directions." Figures 15a-d shows a plurality of shifting operations, but the third shifting operation is performed in an opposite direction of the first direction. This is similar to how the shifting directions are claimed in claim 8. For examination purposes, the third shifting direction is interpreted as being opposite of the first shifting direction.

10. Claims 2-7, 9-15, and 23-28 are rejected due to their dependency.

New Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-6, 8-13, 15, 22-27, 29, and 36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Crozier (U.S. 5,081,700), in view of Pechanek et al. (U.S. 6,338,129).

13. As per claim 1:

Crozier disclosed a method of rotating data in a plurality of processing elements, comprising:

a plurality of shifting operations (Crozier: Figures 5a-d, column 5 lines 39-58)(Figure 5 shows a plurality of shift operations between figures 5b-d.), each shifting operation being performed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively (Crozier: Figures 5a-d, column 5 lines 39-58)(In view of the 112 second paragraph rejection, the limitation is interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column. Each of the three shifting operations result in a single row/column receiving all data of the row/column.);

a plurality of selecting operations after each shifting operation on said received data, where each of the received data is a candidate for selection (Crozier: Figures 5a-

d, column 5 lines 39-58)(After each shifting operation in figures 5a-c, data is selected to be stored prior to the next shifting operation in a different direction. Any received data can be possibly selected based on the number of required shifts in a given direction.), said shifting and selecting operations coordinated to enable a three shears operation to be performed on the data (Crozier: Figures 5a-d, column 5 lines 39-58)(A three shears operation involves three separate shifts on data. The method of rotating data in figure 5 involves 3 separate shifts. Figure 5b involves a down shift, figure 5c involves a left shift, and figure 5d involves an up shift. The shifting results in a 90-degree rotation of the data.).

Crozier failed to teach shifting and selecting operations are performed by a plurality of processing elements connected in an array.

However, Pechanek disclosed shifting and selecting operations are performed by a plurality of processing elements connected in an array (Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(The shifting and storing operations done by Crozier in combination with Pechanek result in operations being done in processing elements.).

Image processing is an example of an application that can be done efficiently on a parallel processor (Pechanek: Column 1 lines 13-20). One of ordinary skill in the art would have been motivated to find such image processing applications that work on the parallel processing unit Pechanek uses to find Crozier's method of image rotation. Thus, it would have been obvious to one of ordinary skill in the art to implement Crozier's method of image rotation on the parallel processor of Pechanek for the

advantage of being able to efficiently process the images.

14. As per claim 2:

Crozier and Pechanek disclosed the method of claim 1 wherein said plurality of selecting operations are responsive to initial counts (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-22)(Crozier disclosed maintaining counters for the shifting being done to perform the 90-degree rotation. It's inherent that there is an initial count determined to know how many shift operations will be done.).

Crozier and Pechanek failed to teach where one of said initial counts which are either loaded into at least one of said processing elements or calculated locally based on the processing element's location.

However, one of ordinary skill in the art would recognize that the shifting counters placement doesn't have an effect on the process of shifting the data and could be placed anywhere. Thus, it would have been obvious to one of ordinary skill in the art to implement shift counters within the processing elements to determine how many shift operations are left. In addition, according to "In re Japikse" (181 F.2d 1019, 86 USPQ 70 (CCPA 1950)), shifting the location of parts doesn't give patentability over prior art.

15. As per claim 3:

Crozier and Pechanek disclosed the method of claim 2 additionally comprising maintaining a current count in each processing element for each initial count, said current counts being responsive to said initial counts and the number of data shifts performed (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-22)(It would have been obvious to one of ordinary skill in the art at the time of

the invention that the counters could have been initially set and decremented until the data arrived in the correct place to perform the 90-degree rotation as shown in figures 5b-d.).

16. As per claim 4:

Crozier and Pechanek disclosed the method of claim 3 wherein said maintaining current counts includes altering said initial counts at programmable intervals by a programmable amount (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-22)(It would have been obvious to one of ordinary skill in the art at the time of the invention that the counters could have been initially set and decremented until the data arrived in the correct place to perform the 90-degree rotation as shown in figures 5b-d.).

17. As per claim 5:

Crozier and Pechanek disclosed the method of claim 4 wherein said initial counts are decremented in response to a shifting of data to produce said current counts (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-22)(It would have been obvious to one of ordinary skill in the art at the time of the invention that the counters could have been initially set and decremented until the data arrived in the correct place to perform the 90-degree rotation as shown in figures 5b-d.).

18. As per claim 6:

Crozier and Pechanek disclosed the method of claim 5 wherein a selecting operation is performed when a current count in a processing element is non-positive (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-

22)(It would have been obvious to one of ordinary skill in the art at the time of the invention that the counters could have been initially set and decremented until the data arrived in the correct place to perform the 90-degree rotation as shown in figures 5b-d. Additionally, it would have been obvious to one of ordinary skill in the art that upon reaching zero, the data values would be stored so that the next shifting could occur with the data in the correct places.).

19. As per claim 8:

Crozier and Pechanek disclosed a method of rotating data in a plurality of processing elements connected in an array, comprising:

a first shifting of a plurality of data in a first direction along one of a row or a column (Crozier: Figures 5a-b, column 5 lines 39-58)(The first shift is a down shift along the columns.) until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively (Crozier: Figures 5a-b, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(In view of the 112 second paragraph rejection, the limitation is interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column. The first shifting operation results in a single column receiving all data of the column. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.);

a first selection of data from said received data, where each of the received data is a candidate for selection, in response to said first shifting and the positions of said

plurality of processing elements (Crozier: Figures 5a-b, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(After the shifting operation between figures 5a-b, data is selected to be stored prior to the next shifting operation in a different direction. Any received data can be possibly selected based on the number of required shifts in a given direction. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.);

a second shifting of said plurality of data in a second direction perpendicular to said first direction along one of a row or column (Crozier: Figures 5b-c, column 5 lines 39-58)(The second shift is a left shift perpendicular to the first down shift along rows.) until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively (Crozier: Figures 5b-c, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(In view of the 112 second paragraph rejection, the limitation is interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column. The second shifting operation results in a single row receiving all data of the row. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.);

a second selection of data from said received data, where each of the received data is a candidate for selection, in response to said second shifting and the positions of said plurality of processing elements (Crozier: Figures 5b-c, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(After the

shifting operation between figures 5b-c, data is selected to be stored prior to the next shifting operation in a different direction. Any received data can be possibly selected based on the number of required shifts in a given direction. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.);

a third shifting of said plurality of data in a third direction opposite to said first direction along one of a row or a column (Crozier: Figures 5c-d, column 5 lines 39-58)(The third shift is an up shift along the columns opposite of the first shift.) until each processing element in each row or column has received data originally held by every other processing elements in that row or column, respectively (Crozier: Figures 5c-d, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(In view of the 112 second paragraph rejection, the limitation is interpreted as each shifting operation results in a single row/column that receives all data originally held in the single row/column. The third shifting operation results in a single column receiving all data of the column. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.);

a third selection of data from said received data, where each of the received data is a candidate for selection, in response to said third shifting and the positions of said plurality of processing elements (Crozier: Figures 5c-d, column 5 lines 39-58)(Pechanek: Figure 1a, column 1 lines 46-67 continued to column 2 lines 1-28)(After the shifting operation between figures 5c-d, data is selected to be stored prior to the next shifting operation in a different direction. Any received data can be possibly selected

based on the number of required shifts in a given direction. The combination with Pechanek results in the image processing operation taking place on an array of processing elements.).

Image processing is an example of an application that can be done efficiently on a parallel processor (Pechanek: Column 1 lines 13-20). One of ordinary skill in the art would have been motivated to find such image processing applications that work on the parallel processing unit Pechanek uses to find Crozier's method of image rotation. Thus, it would have been obvious to one of ordinary skill in the art to implement Crozier's method of image rotation on the parallel processor of Pechanek for the advantage of being able to efficiently process the images.

20. As per claim 9:

Crozier and Pechanek disclosed the method of claim 8 wherein said first, second and third selection of data are responsive to initial counts (Crozier: Figure 2 elements 37 and 48, column 3 lines 24-31 and column 4 lines 12-22)(Crozier disclosed maintaining counters for the shifting being done to perform the 90-degree rotation. It's inherent that there is an initial count determined to know how many shift operations will be done.).

Crozier and Pechanek failed to teach where one of said initial counts, which are either loaded into at least one, said processing elements or calculated locally based on the processing element's location.

However, one of ordinary skill in the art would recognize that the shifting counters placement doesn't have an effect on the process of shifting the data and could be placed anywhere. Thus, it would have been obvious to one of ordinary skill in the art to

implement shift counters within the processing elements to determine how many shift operations are left. In addition, according to "In re Japikse" (181 F.2d 1019, 86 USPQ 70 (CCPA 1950)), shifting the location of parts doesn't give patentability over prior art.

21. As per claim 10:

Claim 10 essentially recites the same limitations of claim 3. Therefore, claim 10 is rejected for the same reasons as claim 3.

22. As per claim 11:

Claim 11 essentially recites the same limitations of claim 4. Therefore, claim 11 is rejected for the same reasons as claim 4.

23. As per claim 12:

Claim 12 essentially recites the same limitations of claim 5. Therefore, claim 12 is rejected for the same reasons as claim 5.

24. As per claim 13:

Claim 13 essentially recites the same limitations of claim 6. Therefore, claim 13 is rejected for the same reasons as claim 6.

25. As per claim 15:

Crozier and Pechanek disclosed the method of claim 8, wherein:

said first shifting and selection operations are coordinated to enable a first shear operation to be performed in said first direction (Crozier: Figures 5a-b, column 5 lines 39-58)(The first shear direction in figures 5a-b is down.);

said second shifting and selection operations are coordinated to enable a second shear operation to be performed in said second direction (Crozier: Figures 5b-c, column 5 lines 39-58)(The second shear direction in figures 5b-c is left.);

said third shifting and selection operations are coordinated to enable a third shear operation to be performed in said third direction (Crozier: Figures 5c-d, column 5 lines 39-58)(The third shear direction in figures 5c-d is up.);

26. As per claim 22:

Claim 22 essentially recites the same limitations of claim 8. Claim 22 additionally recites the following limitations:

Crozier and Pechanek failed to teach first shifting on a plurality of data in done in a first pair of directions, second shifting on a plurality of data in done in a second pair of directions, and third shifting on a plurality of data in done in a third pair of directions.

However, it would have been obvious to one of ordinary skill in the art to perform a pair of shifts for each cycle of shifting. Looking at figure 5 in Crozier, the data to be shifted 90-degrees is an 8x8 matrix. Looking at figure 5b, the shifting that occurs is downward from figure 5a. The left-most column is shifted down 7 spaces, with the columns to the right being shifted down 6, 5, 4, 3, 2, 1, and 0 spaces respectively. One of ordinary skill in the art would recognize that the left-most column in figure 5a containing the letter ‘a’ could instead be shifted up 1 space to achieve the same arrangement as shown in figure 5b. One of ordinary skill in the art would also realize the same up shifting process could be applied to shift the columns going down 6 and 5 spaces and instead shift up 2 and 3 spaces respectively. One of ordinary skill in the art

would realize that this process of shifting two different directions would result in a total of 12 shifting cycles being saved. Thus, it would have been obvious to one of ordinary skill in the art to implement shifting in a pair of directions to increase the performance of the rotation process.

27. As per claim 23:

Claim 23 essentially recites the same limitations of claim 9. Therefore, claim 23 is rejected for the same reasons as claim 9.

28. As per claim 24:

Claim 24 essentially recites the same limitations of claim 3. Therefore, claim 24 is rejected for the same reasons as claim 3.

29. As per claim 25:

Claim 25 essentially recites the same limitations of claim 4. Therefore, claim 25 is rejected for the same reasons as claim 4.

30. As per claim 26:

Claim 26 essentially recites the same limitations of claim 5. Therefore, claim 26 is rejected for the same reasons as claim 5.

31. As per claim 27:

Claim 27 essentially recites the same limitations of claim 6. Therefore, claim 27 is rejected for the same reasons as claim 6.

32. As per claim 29:

Claim 29 essentially recites the same limitations of claim 15. Therefore, claim 29 is rejected for the same reasons as claim 15.

33. As per claim 36:

Claim 36 essentially recites the same limitations of claim 1. Therefore, claim 36 is rejected for the same reasons as claim 1.

34. Claims 7, 14, and 28 are rejected under 35 U.S.C. §103(a) as being unpatentable over Crozier (U.S. 5,081,700), in view of Pechanek et al. (U.S. 6,338,129), further in view of Taylor (U.S. 4,992,933).

35. As per claim 7:

Crozier and Pechanek disclosed the method of claim 1.

Crozier and Pechanek failed to teach selecting which processing elements are active in response to a row select signal and a column select signal.

However, Taylor disclosed selecting which processing elements are active in response to a row select signal and a column select signal (Taylor: Figure 1, column 4 lines 7-29).

The row and column select signals allow the array processor to locally modify global shift instructions (Taylor: Column 2 lines 42-54). The advantage of increased flexibility in shifting operations would have motivated one of ordinary skill in the art to implement row and column select signals. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement row and column select signals for the advantage of increased flexibility in global shift operations.

36. As per claim 14:

Claim 14 essentially recites the same limitations of claim 7. Therefore, claim 14 is rejected for the same reasons as claim 7.

37. As per claim 28:

Claim 28 essentially recites the same limitations of claim 7. Therefore, claim 28 is rejected for the same reasons as claim 7.

Response to Arguments

38. The arguments presented by Applicant in the response, received on 10/22/2009 are not considered persuasive.

39. Applicant argues that “Claim 1 has been amended to recite, *inter alia,* "each shifting operation being preformed such that each processing element in each row or column receives the data originally held by every other processing element in that row or column, respectively" and "a plurality of selecting operations performed by said plurality of processing elements after each shifting operation on said received data, where each of the received data is a candidate for selection." Support for the amendments can be found in paragraphs [0062] and [0063], among others, of the application as filed.”

This argument is not found to be persuasive for the following reason. As noted above, the examiner disagrees that this limitation provides support for the newly claimed limitation. In view of the 112 second paragraph rejection, the newly cited limitations are rejected as stated above.

40. Applicant argues that "The examiner's attention is respectfully directed to the four related applications listed in the first paragraph of the instant application. The status of those applications is as follows: in 10/689,366 a Notice of Allowance was mailed on 16 October 2009. The other three applications have issued and are now U.S. Patent Nos. 7,596,678; 7,263,543; and 7,581,080. Language identical to or similar to the language added to the claims in the instant case may be found in these other cases. For the convenience of the examiner, the art cited in these other four cases is submitted in the information disclosure statement filed herewith. The file histories, including the Office actions issued in the other four cases, are available to the examiner through the records of the PTO."

The examiner has taken a cursory look at each of the applications and reviewed the references provided in the IDS. The examiner notes that the claim language in each of the patented cases appears to be slightly different and certainly not identical. Additionally, none of the other patented cases appears to have considered either of the Crozier and Pechanek references.

Conclusion

The following is text cited from 37 CFR 1.111(c): In amending in reply to a rejection of claims in an application or patent under reexamination, the applicant or patent owner must clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the

objections made. The applicant or patent owner must also show how the amendments avoid such references or objections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Petranek whose telephone number is 571-272-5988. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jacob Petranek/
Examiner, Art Unit 2183